

Remarks

In response to the Final Office Action, the applicant has amended claims 3 and 34. Claims 3, 5, 7-23, 25-31, and 34 are presented for examination. The applicant respectfully requests reconsideration of the outstanding rejections in view of the following remarks.

Claim Amendments

Independent Claims 3 and 34 have been amended to recite a lens that provides an automatic or manual control of, as described in the specification.¹

Claim Rejections - 35 U.S.C. §103

Independent Claims 3 and 34 have been rejected under 35 U.S.C. §103 as being obvious over U.S. Pat. No. 6,293,911 to Imaizumi et al. ("Imaizumi") in view of U.S. Pat. No. 5,582,576 to Hori et al. ("Hori"). Reconsideration and withdrawal are respectfully requested in view of the following remarks.

Imaizumi and Hori do not teach any control of focus in the manner claimed

Imaizumi teaches an endoscopic imaging system,² and provides numerous explicit³ and implicit⁴ references to endoscopic treatments. The applicant has disclosed a fundamentally different system for use in a fundamentally different imaging environment -- capturing images of an open surgical site. This requires different optics, different lighting hardware and electronics (with sufficient power to illuminate an operating area), different infrastructure (to close off ambient light), and so forth. In order to practice this system, the applicant has designed and fabricated (or had fabricated) custom components such as filters, lens systems, and related hardware. The applicant has also conceived (and sought patent protection for) other system components such as lighting modules⁵ and control software⁶ in the absence of suitable commercially-available alternatives. To be sure, the applicant's system shares certain abstract principles of operation with Imaizumi. Most particularly, both disclosures favor the use of

¹ U.S. Pub. No. 2005/0182321, ¶ [0100].

² See, e.g., Imaizumi, Title and Abstract.

³ See, e.g., Imaizumi, col. 28, lines 47-50 ("Diagnosis can therefore be achieved properly, and an endoscopic treatment can be carried out properly.").

⁴ See, e.g., Imaizumi col. 34, lines 45-50 (describing laser therapy for a lesion).

⁵ See commonly-owned Int'l App. No. PCT/US08/069663.

⁶ See commonly-owned Int'l App. No. PCT/US07/072803.

biocompatible fluorescent dyes such as indocyanine green to obtain images of regions of interest. But these are different imaging systems. One structurally significant feature is the existence of a controllable focus in the optics of the claimed invention.

As previously noted by the applicant, Imaizumi is entirely silent with respect to focus. The examiner has identified Hori as disclosing this feature; however, like Imaizumi, Hori teaches a fixed-focus endoscopic system that does not provide any user control over focus. In order to maintain this fixed focus, Hori teaches structures and arrangements (completely different from the focusing lens on a conventional camera) to physically move both a zoom lens and an imaging device relative to an objective lens during a zoom in order to maintain the fixed focus of the endoscope. “The endoscope also comprises first and second motion transmitting means for moving said zoom lens *and said imaging device* respectively along the optical axis of said objective lens”.⁷ In the context of a fixed-focus endoscopic system, there is no need for a focusing feature that adapts to objects at various distances, and Hori does not suggest any such feature. Rather, Hori only teaches movement of an imaging device so that it remains in the appropriate focal plane for fixed-focus use when zooming to magnify an image.

Hori and Imaizumi cannot render the claimed invention obvious because they do not teach any control over focus. Imaizumi is entirely silent on this matter. Hori only teaches control over zoom, and explains how an imaging device is maintained in a focal plane during a zoom operation. However, the endoscope of Hori is clearly a fixed-focus imaging system.

The examiner has also suggested that “an automated lens system for focusing is well known in electronic endoscopes.” The applicant strongly disagrees. Endoscopic systems generally use fixed-focus optics. This is true of all of the art of record and, to the applicant’s knowledge, endoscopes that are generally commercially available. The applicant requests that this particular assertion be withdrawn, or that the examiner identify some support for this notion.

The art provides no teaching, suggestion, or other motivation to use an enclosure that excludes broadband light sources as presently claimed.

In the previous rejection, the examiner has completely omitted any discussion or citation of art directed to the applicant’s use of an operating area closed to ambient light. Absent such a teaching, the current art of record cannot meet the prima facie requirements for an obviousness

⁷ Hori, Abstract (emphasis added).

rejection. Notwithstanding this deficiency in the outstanding claim rejections, the applicant has nonetheless amended the claims to clarify this feature of the claimed invention. Endoscopes are used in enclosed biological spaces, and the use of a physical enclosure is neither desirable nor practical in this context. The endoscopic art of record actively teaches against any such enclosure, and the examiner has not explained why or how one of skill in the art would come to combine such endoscopic art with any open surgical system. As such, the applicant requests that the claims be allowed, or that the examiner provide some support for a rejection of this claimed feature.

The applicant respectfully requests reconsideration and withdrawal of the claim rejections based on Imaizumi and Hori because this art does not, alone or in combination, teach or suggest or otherwise render obvious the claimed features of a controllable focus and an enclosure that excludes broadband light. Because the independent claims are allowable, the claims depending therefrom are likewise in condition for allowance.

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It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. Nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Conclusion

The applicant believes that the Claims as amended are in condition for allowance. A notice to this affect is respectfully requested.

The Director is hereby authorized to charge any fees under 37 C.F.R. §§1.16 and 1.17, or to credit any overpayments, to Deposit Account No. 50-4262 in order to have this paper considered.

Respectfully submitted,

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March 23, 2010